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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|-----------------------------|------------------|
| 09/841,255 | 04/24/2001 | Nobuyuki Kambe | 2950.01US02 | 6755 |
| 7590 | 06/07/2006 | | | |
| Peter S. Dardi Patterson, Thuente, Skaar & Christensen, P.A 4800 IDS Center 80 South 8th Street Minneapolis, MN 55402-2100 | | | EXAMINER KOSLOW, CAROL M | |
| | | | ART UNIT 1755 | PAPER NUMBER |

DATE MAILED: 06/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 09/841,255 | KAMBE ET AL. | |
| | Examiner C. Melissa Koslow | Art Unit 1755 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 08 May 2006.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-3,6-9,12-15 and 23-31 is/are pending in the application.
 - 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1, 6-8, 15 and 25-31 is/are rejected.
- 7) Claim(s) 2,3,9,12-14,23 and 24 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 08 May 2006 is/are: a) accepted or b) objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5/11/06.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

This action is in response to applicants' amendment of 8 May 2006. The drawings were received on 8 May 2006. These drawings are acceptable. The amendment to the claims have overcome the 35 USC 112 rejection, the obviousness-type double patenting rejection of claims 15, 23 and 24 over co-pending application 09/136,483 and art rejections over claims 1-3, 9, 12, 15, 23 and 24. Applicant's arguments with respect to the remaining rejections have been fully considered but they are not persuasive.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 25 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 9 of copending Application No. 09/136,483. Although the conflicting claims are not identical, they are not patentably distinct from each other because the polishing composition of claim 9 in Application No. 09/136,483

means it would have been obvious to smooth a surface by polishing the surface using the polishing composition of claim 9 in Application No. 09/136,483.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants' arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references. Applicants simply state claim 25 is not *prima facia* obvious over claim 9 of Application No. 09/136,483 but have not explained why claim 9 does not suggest or make obvious the claimed process. The rejection is maintained.

Claims 1, 6, 15, 25, 26, 29 and 31 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 24 and 26 of copending Application No. 09/433,202. Although the conflicting claims are not identical, they are not patentably distinct from each other because the polishing composition of claims in Application No. 09/433,202 suggests the polishing composition since the ranges overlap those claimed in this application and the particles can be silica or Fe₂O₃. Since Application No. 09/433,202 claims a method polishing the surface using the polishing composition of claim 1 in Application No. 09/43,202. The composition of claim 1 in Application No. 09/43,202 suggests that of claims 15, 26 and 29 since the composition and size ranges overlap. Since claim 26 of the copending application teaches using the composition of claim 1 of the copending application, it also suggests that the particle composition of claim 3 and particle size distribution of claim 24

can be used in the process of claim 26. This suggests the composition and process of claims 1 and 6 of this application.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Applicants' repeated previous arguments are not convincing for the reasons given in the previous action.

With respect to applicants' comments with respect to the filing of a terminal disclaimer for improvement applications are noted, but there is no indication that this application is an improvement of the compositions and processes in application 09/433,202.

Applicants state 804.02 VI is directed to issues relating to applications filed under 35 USC 120,121 or 365(c). This is incorrect. Lines 2-3 of this section states it applies to all applications filed on or after June 8, 1995.

Finally, the discussion in section VI of MPEP 804.02 with respect to patent term extension does not relate to administrative delay, as it relates to two-way obviousness test. Applicants are referred to MPEP 804.02 (B)(1)(a) for the requirements when the two-way obviousness test is applicable. The rejection is maintained.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 26, 29 and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 4,842,837.

This reference teaches silica particles used in polishing slurries, thus the reference teaches dispersions of the silica particles, which is a polishing slurry, and the use of this slurry to

smooth a surface by polishing the surface with the slurry. The taught silica particles are monodispersed particles having a particle size of 50 nm or less. Monodispersed means the particles have a uniform particle size as shown by column 1, lines 41-44, the supplied Webster Dictionary definition, column 2, lines 43-44 in U.S. patent 2,346,553 and column 2, lines 9-10 of U.S. patent 3,586,741. Examples 1, 3 and 4 teach a monodispersed or uniformly sized collection of silica particles, where all the particles in the collection have a size of 25, 42 or 17 nm. Therefore none of the taught collections have a diameter greater than about 5 times the average particle size. The reference teaches the claimed dispersion and method.

Claims 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 4,842,837 in view of U.S. patents 5,318,927; 5,626,715 and 5,389,194.

As stated above, U.S. patent 4,842,837 teaches the claimed dispersion, but it does not teach the carrier liquid for the dispersion or polishing slurry. While U.S. patent 4,842,837 does not teach the carrier liquid of the slurry, one of ordinary skill in the art would have found it obvious to use any known polishing slurry carrier liquid. U.S. patents 5,318,927; 5,626,715 and 5,389,194 all teach aqueous and nonaqueous solutions are conventional polishing slurry carrier liquid. Thus one of ordinary skill in the art would have found it obvious to use the either known aqueous or nonaqueous solutions as the carrier liquid for the polishing slurries of U.S. patent 4,842,837. The references suggest the claimed dispersion.

Applicants' arguments are not convincing for the reasons given in the previous action and for the following reasons. Applicants' have not presented any evidence the taught particles are not uniform or monodispersed nor that monodispersed or uniform particles include particles that

are 5 times the average size in an amount of at least 1 particle in a million particles. The rejection is maintained.

It is noted that the declaration originally filed in 09/136,482 is not applicable to this reference since it was not cited in that application.

Claims 6-8, 25-27 and 29-31 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. patent 5,389,194 or are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. patent 5,626,715.

These references teach a method of smoothing a surface by polishing the surface using a polishing slurry in combination with a rotating polishing pad, which is a type of mechanical polisher. The taught polishing slurry is an dispersion of abrasive particles in an aqueous solution. The abrasive particles are either silica or alumina. The taught silica and alumina particles have a preferred average particle size in the range of 10-40 nm, which falls within the claimed range, and a size distribution about the average particle size in the range of 10%, 20%, or 30%. Thus the reference teaches all the particles fall within 10% of the average particle size and 110% of the average particle size; within 20% of the average particle size and 120% of the average particle size and within 30% of the average particle size and 130% of the average particle size. These ranges fall within that of claim 1. It is clear that none of the particles in these ranges will be 5 times of average particle size, as shown by the following calculation. Choosing an average particle size of 40, the size distributions which are 10%, 20% and 30% about the average particle size are respectively, 36-44 nm, 32-48 nm and 28-52 nm. Choosing an average particle size of 30, the size distributions which are 10%, 20% and 30% about the average particle size are respectively, 27-33 nm, 24-36 nm and 21-39 nm. Choosing an average particle size of 20, the

size distributions which are 10%, 20% and 30% about the average particle size are respectively, 18-22 nm, 16-24 nm and 14-26 nm. Choosing an average particle size of 10, the size distributions which are 10%, 20% and 30% about the average particle size are respectively, 9-11 nm, 8-12 nm and 7-13 nm.

Example 3 in both references teaches a polishing slurry comprising alumina particles, where 90 wt% (Z of the example) of the particles are in the alpha phase, which means the alumina particles have a single crystalline phase with a uniformity of 90 wt%. This meets the requirements of claim 9. The taught alumina particles have an average particle size of 10 nm (X of the example) and a distribution about the average particle size of 10% (P in the example) which means all the particles in the slurry are within the range of 10% of the average particle size and 110% of the average particle size or are within the range of 9-11 nm, where Y is 1 nm ('715:claims 3 and 14). This range falls within size range of claim 1 and shows no particles have a size 5 times the average particle size, which would be 50 nm. The references clearly teach the claimed dispersion and process.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patent 5,389,194 or U.S. patent 5,626,715 as applied to claims 1, 15 and 26 above, and further in view of U.S. patent 5,318,927.

As discussed above, U.S. patent 5,389,194 and U.S. patent 5,626,715 suggests the claimed dispersions and defines them as chemical-mechanical polishing slurries. While the preferred liquid for the taught chemical-mechanical polishing slurries is an aqueous solution, U.S. patent 5,389,194 and U.S. patent 5,626,715 indicate any known liquids for polishing slurries can be used. U.S. patent 5,318,927 teaches non-aqueous based chemical-mechanical

polishing slurries are known. Therefore one of ordinary skill in the art would have found it obvious would have found it obvious to a non-aqueous solution as the carrier liquid for the chemical-mechanical polishing slurries of U.S. patent 5,389,194 and U.S. patent 5,626,715.

The declaration originally filed in application 09/136483 under 37 CFR 1.132 is insufficient to overcome the rejection because it amounts to an affirmation that the affiant has never seen the claimed subject matter before. This is not relevant to the issue of anticipation or nonobviousness of the claimed subject matter and provides no objective evidence thereof. See MPEP § 716. Accordingly, it does not overcome the rejection.

The fact the examples do not say how the how to obtain particle within the taught ranges does not overcome the rejection. A reference does not require specific disclosure of what is already known to one of ordinary skill in the art. *Case v. CPC International Inc.* 221 USPQ 196, 201 (Fed. Cir. 1984). There has been no showing that method of producing or forming the disclosed particle size distribution were not already known to one of ordinary skill in the art.

Applicants' arguments that the abrasive particles of the references must be those of U.S. patent 5,128,081 (the Siegel patent) is not convincing for the reasons given in the previous action. Applicants have not presented any evidence that no other methods were known to produce the taught particles. It is noted that U.S. patent 4,842,837 teaches a method for forming silica articles of 100 nm or less. Thus this argument is not convincing.

Applicants' make the statement that Dr. Singh could not make full sense of the references. It is not what is stated in the declaration. In the third paragraph, where he discusses meaning in the patents, his argument is that Q does not correspond to a Gaussian distribution. His discussion shows he did understand the references. The Examiner has simply rebutted his

arguments. Applicants have not presented any evidence showing the Examiner is incorrect in her rebuttal.

Applicant argue that the office has not been consist in its interpretation of these references. The Examiner cannot find any evidence to support this assertion. If applicants maintain this argument, they need to provide evidence of this argued inconsistency. The rejections are maintained.

Claims 2, 3, 12-14, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 13 and 14 are allowable for the reasons given in the previous action. There is no teaching or suggestion in the cited prior art of record of polishing compositions having the claimed compositions and particle morphology.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo, can be reached at (571) 272-1233.

The fax number for all official communications is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk
June 5, 2006

C. Melissa Koslow
Primary Examiner
Tech. Center 1700